NOTICE

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Enterasys Networks, Inc.
35 Industrial Way
Rochester, NH 03866-5005

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FCC NOTICE

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
NOTE: This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.
WARNING: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

INDUSTRY CANADA NOTICE

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

VCCI NOTICE

This is a class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は，情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

CLASS A ITE NOTICE

WARNING: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

DECLARATION OF CONFORMITY

Application of Council Directive(s):	**89/336/EEC** **73/23/EEC**
Manufacturer's Name:	**Enterasys Networks, Inc.**
Manufacturer's Address:	**35 Industrial Way** **PO Box 5005** **Rochester, NH 03867**
European Representative Name:	**Mr. Jim Sims**
European Representative Address:	**Enterasys Networks Ltd.** **Nexus House, Newbury Business Park** **London Road, Newbury** **Berkshire RG14 2PZ, England**
Conformance to Directive(s)/ Product Standards:	**EC Directive 89/336/EEC** **EC Directive 73/23/EEC** **EN 55022** **EN 55024** **EN 60950** **EN 60825**
Equipment Type/Environment:	**Networking Equipment, for use in a Commercial or Light Industrial Environment.**

Enterasys Networks, Inc. declares that the equipment packaged with this notice conforms to the above directives.

AGENCY STANDARDS

Safety

Meets the requirements of UL 1950, CSA C22.2 No. 950, EN 60950, IEC 950, 73/23/EEC, and EN 60825.

Electromagnetic Compatibility

Compliant with the requirements of FCC Part 15, CSA C108.8, EN 55022, VCCI V-3, EN 55024, 89/336/EEC, and EN 500082-1.

SSR-GLX39-04 & SSR-GSX31-04

The SSR-GLX39-04 and SSR-GSX31-04 are 4-port, T-Series Gigabit Line Cards for the XP-8000 and XP-8600 switch routers. The SSR-GLX39-04 connects to 1000Base-LX fiber and the SSR-GSX31-04 connects to 1000Base-SX fiber.

SPECIFICATIONS

Ports

4 1000Base-SX or 1000Base-LX SC connectors

Network Interfaces

SC connector—850 nm Short-Wavelength Transceiver
SC connector—1300 nm Long-Wavelength Transceiver
50/125 µm Multimode Fiber-Optic Cables
62.5/125 µm Multimode Fiber-Optic Cables
10/125 µm Singlemode Fiber-Optic Cables

Number of Flows/Routes

Layer-2 Entries = 512,000 (memory size = 32 MB)
Layer-3 Entries = 256,000 (memory size= 16 MB)

Switch Method

Address-based and Flow-based.

Queue Buffer

Packet memory size: 8MB

Physical Dimensions

Size: 3.94 cm H x 19.68 W x 27.94 D (1.55 in. H x 7.75 W x 11 D)
Weight: 1.4 kg (3.0 lbs)

Power Consumption

BTU/hr = 273.63
AC Volt Amps = 81

NOTE: If your system uses a redundant power configuration or only one power supply, you will not be able to support more than 4 cards in the XP-8000 and 10 in the XP-8600.

Temperature

Operating: 41° to 104° F (5° to 40° C)
Storage: -22° to 164° F (-30° to 73° C)

Humidity

15% to 90% (non-condensing)

CONNECTIVITY GUIDELINES

Table 1 1000Base-SX Multi-Mode Fiber Specifications

Fiber Diameter	Modal Bandwidth	Range	Connector
62.5/125 µm	160 MHz/km	2-220 m (7-722 ft)	SC
	200 MHz/km	2-275 m (7-902 ft)	SC
50/125 µm	400 MHz/km	2-500 m (7-1641 ft)	SC
	500 MHz/km	2-550 m (7-1805 ft)	SC

Table 2 1000Base-LX Single-Mode Fiber Specifications

Fiber Diameter	Modal Bandwidth	Range	Connector
62.5/125 µm	160 MHz/km	2-220 m (7-722 ft)	SC
	200 MHz/km	2-275 m (7-902 ft)	SC
50/125 µm	400 MHz/km	2-500 m (7-1641 ft)	SC
	500 MHz/km	2-550 m (7-1805 ft)	SC
10/125 µm SMF	N/A	2-5000 m (7 ft-3.1 m)	SC

OPTICS

Table 3 1000Base-SX Fiber

Receiver Sensitivity		Transmit Power	
Minimum	-17 dBm	Minimum	-9.5 dBm
Maximum	0 dBm	Maximum	-4 dBm

Table 4 1000Base-LX Fiber

Receiver Sensitivity		Transmit Power	
Minimum	-20 dBm	Minimum	-11.5 dBm
Maximum	-3 dBm	Maximum	-3 dBm

LEDs

Table 5 LED Indicators

LED	Condition	Status
Offline	On	The line card is offline (powered off) and ready to hotswap. This LED also lights briefly whey you reboot or reset the XP but turns off as soon as the control module discovers the SSR-GLX39-04 or SSR-GSX31-04.
Online	On	The SSR-GLX39-04 or SSR-GSX31-04 is ready to receive, process, and send packets (if configured).
Per-Port Link	Green	Indicates that the port hardware detected the cable plugged into the port and a good link is established.
	Intermittent Red	The port received an error during operation.
	Red	The port hardware detected a cable plugged into the port, but a bad link was established.
	Off	No link from the port exists.
Per-port Rx	Green	The port's transceiver is receiving packets.
	Orange	The port's transceiver is receiving flow-control packets.
Per-port Tx	Green	The port's transceiver is transmitting packets.
	Orange	The port's transceiver is transmitting flow-control packets.
Per-port AN	Green	The line card auto-negotiated the operating mode of the link between full-duplex and half-duplex.
	Intermittent Orange	Auto-negotiation is in progress.
	Orange	Indicates a problem with auto-negotiation configuration.
	Red	An auto-negotiation failure occurred.This fault may occur if the link partner does not support full-duplex operation.
	Off	Auto-negotiation is disabled or the link is down.

INSTALLING THE MODULE

ELECTRICAL HAZARD: Only qualified personnel should perform installation procedures.

NOTE: You may install the SSR-GLX39-04 or SSR-GSX31-04 in any line card slot except the CM slot which supports a control module only.

Handling the Module

CAUTION: The SSR-GLX39-04 and SSR-GSX31-04 are easily damaged by electrostatic discharge.

To prevent electrostatic damage, observe the following guidelines:

- Do not remove the module from its packaging until you are ready to install it.
- Do not touch any of the module's pins, connectors or components.
- Hold the module only by its edges or front panel.
- Wear an anti-static wristband connected to a suitable earth ground whenever handling the module.
- Store or transport this module only in appropriate anti-static packaging.

Equipment Checklist

After unpacking SSR-GLX39-04 or SSR-GSX31-04, check the contents of the box to be sure you received the following items:

- One SSR-GLX39-04 or SSR-GSX31-04 module in anti-static bag
- One disposable anti-static wristband

Tools

This installation requires the following tools:

Anti-static wristband

Phillips screwdriver

Preliminary Setup

Firmware Image Requirements

Version 8.3.0.0 or later.

CLI Setup

Enter the following commands at the CLI before implementing any configurations.

1. Type the following from Enable mode to enter Configuration mode
   Enable -> Configure #
2. You may now begin configuring ports on the SSR-GLX39-04 or SSR-GSX31-04. Refer to the *Enterasys X-Pedition Command Line Interface Reference Manual* for details.

Default Module Settings

The default mode for each port on the XP-8000 and XP-8600 is:

Full duplex/ 1000 mbs/ autonegotiation on

To view the current mode for a particular port, enter the following (where **x** is the chassis slot that contains the line card and **y** is a specific port number on the card):

XP# port show port status gi.x.y

Connector Pin Assignments

The connector pins are assigned as follows:

Table 6 Rx/Tx Pin Assignments

Pin	Connection
Rx	When mated with the cable connector, the SC connector is keyed to run the proper Tx to Rx and Rx to Tx fibers.
Tx	

Hotswap

You may *install* this module into a live system without powering off the device. However, you may not *remove* an active module from a live system except under the following conditions:

- Press the **Hotswap button**. The **Online LED** will turn **off** and the **Offline LED** will turn **on**.

OR...

- Enter the following from the CLI and click enter: **Enable -> System -> Hotswap -> Out -> Slot -> #**. The **Online LED** will turn **off** and the **Offline LED** will turn **on**.

Instructions

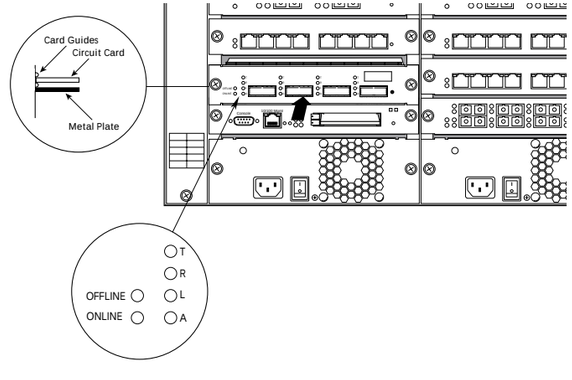
CAUTION: You may install the SSR-GLX39-04 or SSR-GSX31-04 in the chassis with the chassis powered up. However, before removing an existing line card, hotswap the line card as described previously.

1. If a cover plate is installed in the line module slot, **remove the cover plate**: loosen the captive screws on each side of the coverplate and pull out the plate.
2. **Align the backsheet of the line card between the card guides** as shown in Figure 1.

NOTE: Make sure that the circuit card is between the card guides. Check both tracks.

3. **Slide the line card all the way into the slot**, firmly but gently pressing the line card fully in place to ensure that the pins on the back of the line card are completely seated in the backplane.
4. **Tighten captive screws**. Align the captive screws with the holes in the face of the module and tighten the screws to secure the SSR-GLX39-04 or SSR-GSX31-04 to the chassis.
5. Repeat the above steps for additional cards.

Figure 1 Install the Module



TROUBLESHOOTING

Proper Boot Sequence

- Offline LED turns on and remains on until card is online.
- Port LEDs turn on momentarily and the CLI indicates that the system discovered the line card in proper slot.
- CLI indicates all ports are initialized and offline LED turns off.
- Online LED lights.
- Link LED is active for connected lines.

Common Errors

- The line card is not inserted properly or seated completely in the chassis
- Connectors for the connected lines are not seated properly.
- Attached device is not configured to match configuration mode of module (i.e., auto-negotiation, speed, duplex).

Helpful CLI Commands for Debugging

- **System show hardware**
- **System show version**
- **Port show port status gi.x.y** (where **x** is the chassis slot that contains the line card and **y** is a specific port number on the card).
- **System show bootlog**

ADDITIONAL INFORMATION

For additional information about installing this module or to learn more about what capabilities are included in the firmware release you are using, visit the Enterasys Networks web site.

Getting Help

For additional support related to the Common CLI syntax or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	http://www.enterasys.com/
Phone	(603) 332-9400
Internet mail	support@enterasys.com
FTP **Login** **Password**	ftp://ftp.enterasys.com anonymous your email address
To acquire the latest image for this product and any available release notes	http://www.enterasys.com/download
Additional documentation	http://www.enterasys.com/support/manuals

To send comments or suggestions concerning this document, contact the Technical Writing Department via the following email address:
TechWriting@enterasys.com
Please include the document Part Number in the email message.

Before contacting Enterasys Networks for technical support, have the following information ready:

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) taken to resolve the problem (e.g., changing mode switches, rebooting the unit)
- The serial and revision numbers of all involved Enterasys Networks products in the network
- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)

SSR-GLX39-04
SSR-GSX31-04

Quick Start

Web Site: http://www.enterasys.com/

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